

MELIADINE PROJECT SALINE EFFLUENT DISCHARGE TO MARINE ENVIRONMENT



TERRESTRIAL ENVIRONMENT

AGENDA



- Soils and terrain
- Permafrost
- Vegetation
- Management Plans
- Questions

SOILS AND TERRAIN



SOILS AND TERRAIN

- **Potential Impact:** Physical alteration of terrain, and soils due to earthworks, construction, and ground disturbance
 - The waterlines will be placed on the tundra and will cause some localized effects to soils and vegetation.
 - Localized effects are consistent with those effects identified along the AWAR in the original FEIS, Section 6.5.11.2 (Agnico Eagle 2014), both spatially and temporally.
- **Potential Impact:** Spills or accidental release of treated groundwater effluent from the waterlines along the AWAR can affect soils quality
 - Spills along the AWAR are predicted to result in low to negligible changes to soil quality and vegetation relative to baseline and existing conditions



PERMAFROST



PERMAFROST



- Waterline will be in areas of low to moderate risk of thaw or freezing from the waterline
- **Potential Impact:** Physical alteration of terrain, soils, and permafrost due to earthworks, construction, and ground disturbance.
 - Effects are expected to be negligible to permafrost from construction and ground disturbance
 - The construction and operation of AWAR and bypass road and existing HDPE pipes at the Mine have not resulted in permafrost degradation
 - The granulated cover atop the waterlines mitigates degradation of the permafrost within the foundation acting as insulation

VEGETATION



VEGETATION

Existing Environment

- No listed or non-native plant species were found at any of the sampling locations during surveyed, but they have the potential to occur
- Dustfall on vegetation was observed at some of the locations along the AWAR
- Berry picking continues to be, an important fall activity throughout the Meliadine valley

Potential Impacts

- Physical loss or alteration of vegetation from construction of the waterline, discharge pipe, and diffuser
 - Waterlines will be placed on the tundra and will cause some localized effects to vegetation
 - Waterlines will be tied to the bridges, so no sedimentation is expected during construction and operation.
- Spills or accidental release of treated groundwater effluent from the waterlines along the AWAR can affect vegetation
 - Spills along the AWAR are predicted to result in low to negligible changes to vegetation relative to baseline and existing conditions





MITIGATION AND MANAGEMENT PLANS

MITIGATION



Accidental spills have the greatest potential to affect permafrost, soils and vegetation.

- Routine inspections
- Multimode leak detector to identify the physical characteristics of a leak. Fiber-optic cable is capable of pinpointing the location of a leak within 10 m, in real time.
- Emergency stop capabilities
- Allowance for surge pressures
- Water in waterlines will be drained for the winter
- Designed for corrosion protection

KEY MANAGEMENT AND MONITORING PLANS



- Groundwater Management Plan- Appendix B
- Spill Contingency Plan- Appendix C
- Roads Management Plan- Appendix D
- Erosion and Sediment Control Plan for the Treated Groundwater Discharge- Appendix E
- Ocean Discharge Monitoring Plan- Appendix F
- Terrestrial Effects Management and Monitoring Plan (June 2020)
- Dust Management Plan (March 2019)
- Air Quality Monitoring Plan (April 2020)

QUESTIONS ?

